

**REMARKS****I. General**

The issues outstanding in the instant application are as follows:

- Claims 1, 21 and 39 stand rejected under 35 U.S.C. § 112, second paragraph;
- Claims 53-55 and 59 stand rejected under 35 U.S.C. § 102(b) as anticipated by Chang et al., U.S. Pat. No. 5,890,067 (hereinafter *Chang*);
- Claims 1, 3, 4, 19 and 20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over *Chang*, in view of Krishnamurthy, U.S. Pat. No. 6,704,557 (hereinafter *Krishnamurthy*);
- Claim 2 stands rejected under 35 U.S.C. § 103(a) as unpatentable over *Chang*, in view of *Krishnamurthy*, and further in view of Kim, U.S. Pat. No. 6,393,030 (hereinafter *Kim*);
- Claim 5 stands rejected under 35 U.S.C. § 103(a) as unpatentable over *Chang*, in view of *Krishnamurthy*, and further in view of Lin, U.S. Pat. No. 6,295,279 (hereinafter *Lin*);
- Claim 60 stands rejected under 35 U.S.C. § 103(a) as unpatentable over *Chang*, in view of Chudak et al., U.S. Pat. No. 6,253,063 (hereinafter *Chudak*);
- Claims 21-52 are indicated as allowable but for the rejections under 35 U.S.C. § 112, second paragraph; and
- Claims 6-18, 56-58 and 61 are objected to as being dependent upon a rejected base claim.

Applicant hereby traverses the outstanding rejections of the claims, and request reconsideration and withdrawal of the outstanding rejections in light of the remarks contained herein. Claims 1-61 are currently pending in this application.

**II. Rejections under 35 U.S.C. § 112, second paragraph**

Independent claims 1, 21 and 39 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite by virtue of the use of the word “substantially” in the claims. M.P.E.P. § 2173.05(b) states:

The fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph ... Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification.”

M.P.E.P. § 2173.05(b) further instructs the Examiner that when a term of degree is presented in a claim, that first a determination is to be made as to whether the specification provides some standard for measuring that degree. Applicant respectfully directs the Examiner’s attention to the lines 11-16, of page 7, of the present specification, which discusses the sufficient isolation for communication of signals associated with multiple subscribers. Attention is also respectfully directed to the paragraph beginning on line 24 of page 16 and continuing onto page 17, wherein selection of the angular separation of the simultaneously active subscriber units ( $\theta$ ) is discussed in relation to providing a desired level of isolation. Applicant respectfully asserts that at least these passages of the specification provide a standard for measuring the term of degree, “substantially”, as used in the claim phrase “substantially isolated” in claims 1, 21 and 39.

M.P.E.P. § 2173.05(b) additionally instructs the Examiner that if the specification does not provide some standard for measuring the term of degree used in a claim, a determination is made as to whether one of ordinary skill in the art, in view of the prior art and the status of the art, would be nevertheless reasonably apprised of the scope of the invention. In this case, Applicant respectfully contends that the use of “substantially isolated” in claims 1, 21 and 39 is acceptable as one of ordinary skill in the art would understand what is claimed, particularly in light of the teachings of the specification.

Further, whereas RF propagates through free space, and hence there is no practical way to completely isolate RF signals, use of the word “substantially” in the present context

more accurately claims the invention, than leaving the word out would claim the invention. However, if the Examiner has a suggestion as to other claim language that would still accurately claim the invention, Applicant would welcome the Examiner's suggestion. Otherwise, Applicant respectfully asserts the scope of each of claims 1, 21 and 39 is clear from the language presented and thus the rejection under 35 U.S.C. § 112, second paragraph should be withdrawn.

At point "3" in the Office Action, following the above-addressed rejection of claims 1, 21 and 39 under 35 U.S.C. § 112, second paragraph, the Office Action states: "The following rejection is made in view of the second paragraph of 35 U.S.C. § 112." Whereas the Office Action then turns to the § 102 rejection of claims 53-55 and 59, Applicant assumes that this statement at point "3" is intended to be part of the preceding § 112 rejection. If not, Applicant respectfully requests clarification.

### **III. Rejection(s) under 35 U.S.C. § 102(b)**

Claims 53-55 and 59 stand rejected under 35 U.S.C. § 102(b) as anticipated by *Chang*. Applicant respectfully traverses these rejections for the reasons advanced below.

#### **The recited reference does not teach all claimed limitations.**

It is well settled that to anticipate a claim, a reference must teach every element of the claim, see M.P.E.P. § 2131. Furthermore, in order for a reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim," see M.P.E.P. § 2131, citing *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989). Applicant respectfully asserts that the rejections do not satisfy one or more of these requirements, as detailed below.

Independent claim 53 recites "switching, over time, a forward link time slot assignment of said time division access scheme of each of a plurality of subscriber units." *Chang* does not disclose at least this limitation. As discussed in a cited portion of *Chang*, at column 7, lines 38-40, *Chang* teaches "a cell's zone and beam-spot configuration is periodically reconfigured to handle changing mobile unit traffic patterns." *Chang* is silent concerning switching a forward link time slot assignment of a time division access scheme. Thus, *Chang* does not teach the above-recited claim limitation. Therefore, Applicant

respectfully asserts that at least for the above reason independent claim 53 is patentable over the 35 U.S.C. § 102 rejection of record. Furthermore, there are great differences between claim 53 and the art of record, and a person of ordinary skill in the art considering the prior art would not find these differences obvious.

Claims 54, 55 and 59 each depend directly from independent claim 53, and thus each inherits all limitations of claim 53. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claim 53, each of claims 54, 55 and 59 sets forth features and limitations not recited by *Chang*. Hence, Applicant respectfully asserts that claims 54, 55 and 59 are also patentable over the 35 U.S.C. § 102 rejection of record.

#### **IV. Rejections under 35 U.S.C. § 103(a)**

Claims 1, 3, 4, 19 and 20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over *Chang*, in view of *Krishnamurthy*. Claim 2 stands rejected under 35 U.S.C. § 103(a) as unpatentable over *Chang*, in view of *Krishnamurthy*, and further in view of *Kim*. Claim 5 stands rejected under 35 U.S.C. § 103(a) as unpatentable over *Chang*, in view of *Krishnamurthy*, and further in view of *Lin*. Claim 60 stands rejected under 35 U.S.C. § 103(a) as unpatentable over *Chang*, in view of *Chudak*. Applicant respectfully traverses these rejections for the reasons advanced below.

#### **A Prima Facie case of obviousness has not been established.**

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. See M.P.E.P. § 2143. Without conceding the first and second criteria, Applicant asserts that the rejection does not satisfy the third criterion.

#### **The recited combination does not teach or suggest all claimed limitations.**

In rejecting claims 1, 3, 4, 19 and 20, the Office action relies on a combination of *Chang* and *Krishnamurthy*. The Office Action relies on *Chang* as teaching independent

claim 1 limitation “control circuitry operates with said direction finding circuitry to determine a combination of subscriber units of said plurality of subscriber units for providing substantially isolated communication links.” However, Applicant respectfully directs the Examiner’s attention to column 7, line 36-40, of *Chang*, which states:

the beam-spots in the present invention do not move in real-time to follow the mobiles. Instead, a cell's zone and beam-spot configuration is periodically reconfigured to handle changing mobile unit traffic patterns.

Thus, Applicant respectfully asserts that *Chang* focuses on providing beams at particular “spots” based on traffic at a “spot” at a particular time and users may move in-and-out of a “spot” as described in *Chang*. In contrast, claim 1 recites determining a combination of specific subscriber units for providing substantially isolated links. Thus, Applicant respectfully asserts that *Chang* fails to teach or suggest determining “a combination of subscriber units of said plurality of subscriber units.”.

Additionally, the Office Action admits that *Chang* does not teach “implementation of an interference gain scheme for use in conducting communications.” The Office Action attempts to cure this deficiency by introducing *Krishnamurthy*, which the Office Action alleges to teach “an interference protection system wherein the system provides desired signals to the baseband processing system for synchronous combining of the desired signals to realize spatial diversity gain.” The Office Action goes on to state *Krishnamurthy*’s “interference protection system achieves spatial diversity gain.”

Claim 1 recites “said control circuitry operates with said beam forming circuitry to implement an interference diversity gain scheme.” Applicant respectfully submits that, *Krishnamurthy* teaches achieving spatial diversity gain, as admitted by the Office Action, while providing interference protection (see column 11, lines 17-21), not implementation of “an interference diversity gain scheme.”

“Interference diversity gain” is discussed in the present specification paragraph that begins on line 20 of page 6:

Space-time, space-frequency and space-time-frequency hopping according to the present invention give rise to a time-varying interference power received by a subscriber. The time-varying interference power provides a diversity gain with respect to a system which may be realized according to the present invention using conventional interleaving, error control coding and adaptive modulation techniques. (Emphasis added.)

Applicant respectfully submits that *Krishnamurthy*' provisioning of spatial diversity gain while providing interference protection fails to teach or suggest operating "beam forming circuitry to implement an interference diversity gain scheme."

For at least the above reasons, Applicant respectfully asserts that independent claim 1 is patentable over the 35 U.S.C. § 103(a) rejection of record. Therefore Applicant respectfully requests withdrawal of the rejection.

Claims 3, 4, 19 and 20, which also stand rejected under the combination of *Chang* and *Krishnamurthy*. Claims 3, 4, 19 and 20 ultimately depend from independent claim 1, and thus each of claims 3, 4, 19 and 20 inherit all limitations of claim 1. Therefore, for at least the reasons advanced above, each of claims 3, 4, 19 and 20 set forth features and limitations not recited by the combination of *Chang* and *Krishnamurthy*. Thus, Applicant respectfully asserts that claims 3, 4, 19 and 20 are also patentable over the 35 U.S.C. § 103(a) rejections of record.

Claim 2 stands rejected under the combination of *Chang*, *Krishnamurthy* and *Kim*. Claim 5 stands rejected under the combination of *Chang*, *Krishnamurthy*, and *Lin*. Each of claims 2 and 5 depends directly from independent claim 1. Thus, each of claims 2 and 5 inherit all limitations of claim 1, and as noted above, the combination of *Chang* and *Krishnamurthy* fails to teach or suggest various limitations of claim 1. Neither *Kim* or *Lin* is relied upon by the Office Action as teaching the limitations missing from *Chang* and *Krishnamurthy*. Therefore, Applicant respectfully asserts that claims 2 and 5 are each patentable over the respective 35 U.S.C. § 103(a) rejections of record.

Claim 60 stands rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of *Chang* and *Chudak*. Claim 60 ultimately depends from independent claim 53, and thus inherits all limitations of claim 53. As noted above in addressing the

anticipation rejection of claim 53. *Chang* fails to teach or suggest at least one limitation of independent claim 53. *Chudak* is not relied upon by the Office Action as teaching the limitation(s) missing from *Chang*. Therefore, Applicant respectfully asserts that claim 60 is also patentable over the 35 U.S.C. § 103(a) rejection of record.

**V. Conclusion**

Applicant wishes to thank the Examiner for the indication that claims 21-52 are allowable but for the rejections under 35 U.S.C. § 112, second paragraph, obviated above, and that claims 6-18, 56-58 and 61 include allowable subject matter. For all the reasons given above, Applicant submits that the pending claims distinguish over the prior art of record under 35 U.S.C. §§ 102 and 103 and meet the requirements of 35 U.S.C. § 112. Accordingly, Applicant submits that this application is in full condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge Deposit Account No. 06-2380, under Order No. 65948/P063US/10315929, from which the undersigned is authorized to draw.

Applicant respectfully requests that the Examiner call the below listed attorney if the Examiner believes that the attorney can help in resolving any remaining issues or can otherwise be helpful in expediting prosecution of the present application.

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Respectfully submitted,

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